# Department of Ecology

# Water Quality Policy Documents

**Public Workshops**

**June 13 – June 22, 2006**

# What are we here to discuss?

- The document on **Credible Data** was developed as a result of Legislation to ensure that Ecology uses credible data when making decisions on water quality.

- Revisions to Policy 1-11 will dictate how we develop the **2006 Water Quality Assessment and 303(d) List**.

# How Are These Two Documents Related?

- The credible data document provides information on how to ensure you have credible data and when it is required.
- Policy 1-11, the listing policy, requires that credible data be used when developing the Water Quality Assessment and 303(d) list.

# Water Quality Data and Information

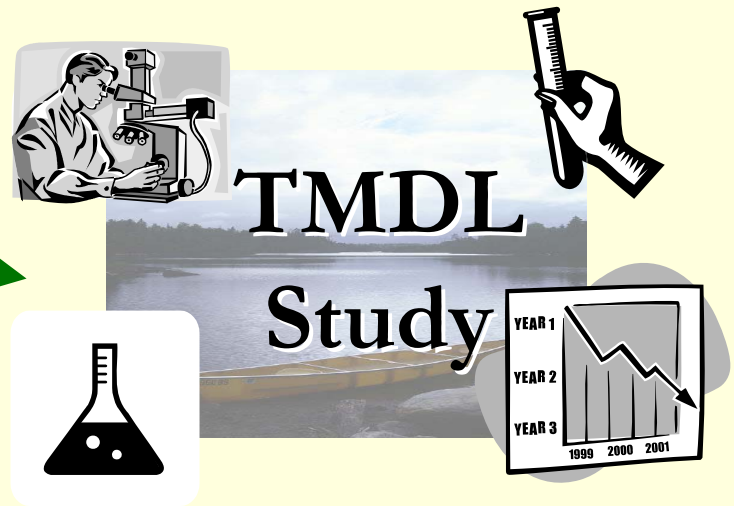
- Ecology
- Federal, State & Local Agencies
- Tribes
- Academic Institutions
- Watershed Groups
- Industry

Credible Data Policy

Water Quality Assessment Policy

303(d) List

Credible Data Policy



# Credible Data Policy
# Water Quality Program

- Water Quality Data Act
- EPA Financial Assistance QA Delegation and Routine Performance Audits
- Builds on existing Ecology QA program and Water Quality Assessment Policy

# Background on Existing Quality Assurance

- **Executive Policy 1-21** was established in 1993 to ensure the consistent application of quality assurance principles to the planning and execution of all activities that acquire and use environmental measurement data.

# Executive Policy 1-21

- **Application**: This policy applies to environmental data collection studies/activities conducted or funded by Ecology.

# Water Quality Data Act

- Establishes general requirements for credible data
- Directs Ecology to establish policy related to credible data

# The department shall use credible data for the following actions

- (a) Determining whether any water of the state is to be placed on or removed from any section 303(d) list;
- (b) Establishing a total maximum daily load for any surface water of the state; or
- (c) Determining whether any surface water of the state is supporting its designated use or other classification.

# Data is considered credible data if:

- (a) Appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing water quality samples;

- (b) The samples or measurements are representative of water quality conditions at the time the data was collected;

# Data is considered credible data if:

- (c) The data consists of an adequate number of samples based on the objectives of the sampling, the nature of the water in question, and the parameters being analyzed; and
- (d) Sampling and laboratory analysis conform to methods and protocols generally acceptable in the scientific community as appropriate for use in assessing the condition of the water.

# The department shall develop policy:

- (a) Explaining how it uses research and literature for developing and reviewing any water quality standard
- (b) Explaining how it uses research and literature for developing and reviewing a technical model used to establish a TMDL

# The department shall develop policy:

- (c) Describing the specific criteria that determine data credibility; and
- (d) Recommending the appropriate training and experience for collection of credible data.

A **Q**uality **A**ssurance **P**roject **P**lan is prepared for each environmental study/activity that acquires or uses environmental measurement data.

## What does a QAPP do?

- Details the objectives of the study/activity
- Identifies the data needed to achieve those objectives
- Describes the sampling, measurement, quality control, and data assessment procedures needed to obtain the data.

# Data Audit

- Completeness of QA documentation
- Adequacy of QA project plans
- Verification of completeness
- Validation of data package

Department of Ecology
Water Quality Program

# For more Information

- http://www.ecy.wa.gov/programs/wq/qa/index.html
- Contact:

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**Water Quality Program**

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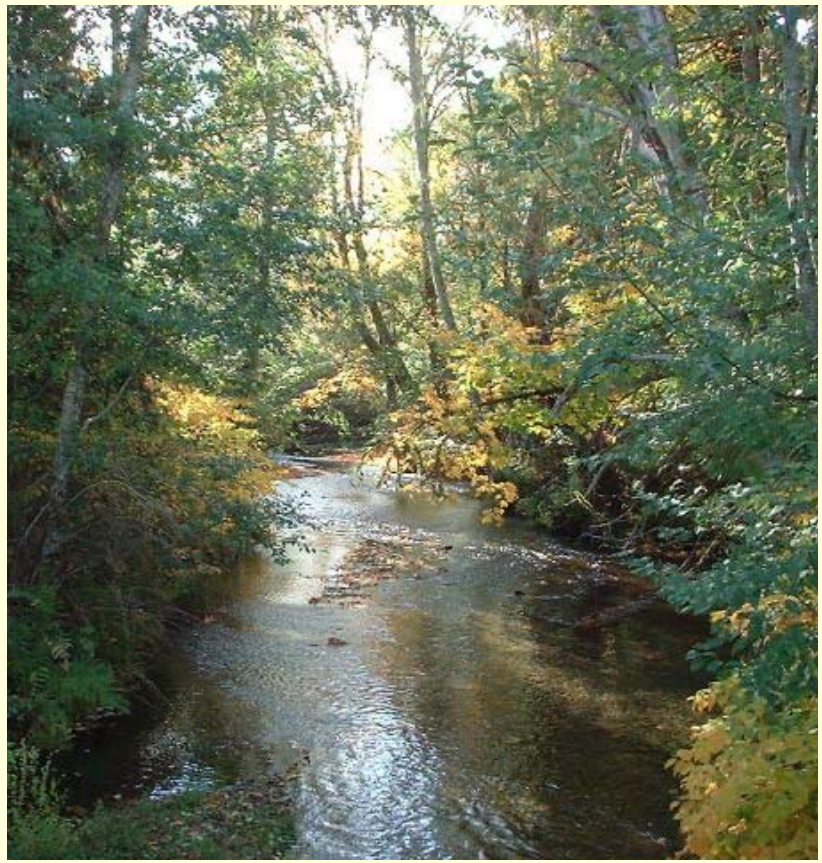
mher461@ecy.wa.gov

Comments will be accepted until July 10, 2006

# What is the Water Quality Assessment for Washington?

- ***It's a comprehensive assessment of the quality of Washington's waters***
- ***It gives the ability to better track when waters are getting cleaner or dirtier.***
- ***It allows us to set priorities for protecting and improving water quality used for swimming, fishing, fish habitat, and drinking.***



# Categories

Water quality assessment results are placed into five different categories (one with three subcategories).

All will be submitted to EPA and the public, but only the 303(d) list requires EPA approval

<table>
<tr><td>Category 1: Meets Tested Standards</td><td rowspan="3">Not impaired, or not known to be impaired</td><td rowspan="3">No TMDL required</td></tr>
<tr><td>Category 2: Waters of Concern</td></tr>
<tr><td>Category 3: No Data</td></tr>
<tr><td>Category 4<br>a: Has a TMDL<br>b: Has a Pollution Control Program<br>c: Impaired by a Nonpollutant</td><td rowspan="2">Impaired</td></tr>
<tr><td>Category 5: The 303(d) List</td><td>TMDL required</td></tr>
</table>

# Waters That Meet Tested Standards (Category 1)

- **Waters in this category are clean for the standards they were tested for.**

- **Placement in this category does not necessarily mean that a water body is free of all pollutants.**

# Waters of Concern (Category 2)

- **Some evidence there may be a water quality problem, but not enough is known to begin a clean-up plan.**

- **Keep an eye on these waters to prevent things from getting worse.**

# Waters with Insufficient Data (Category 3)

- **Includes waterbody segments where the available data is insufficient to determine the status of the water.**
- **Includes waterbody segments where no data has been collected.**
- **If waterbodies do not appear in one of the other categories, they are assumed to belong here.**

# Waters that have a Cleanup Program in Place (Categories 4A & 4B)

- **These waters have a water cleanup plan (TMDL) or pollution control program that is expected to solve the pollution problems.**

# Waters Impaired by a Non-Pollutant (Category 4C)

- **These are waters impaired by causes that are not addressed through a clean-up plan:**
  - **low water flow**
  - **stream channelization**
  - **blocking culverts**
  - **Invasive species**

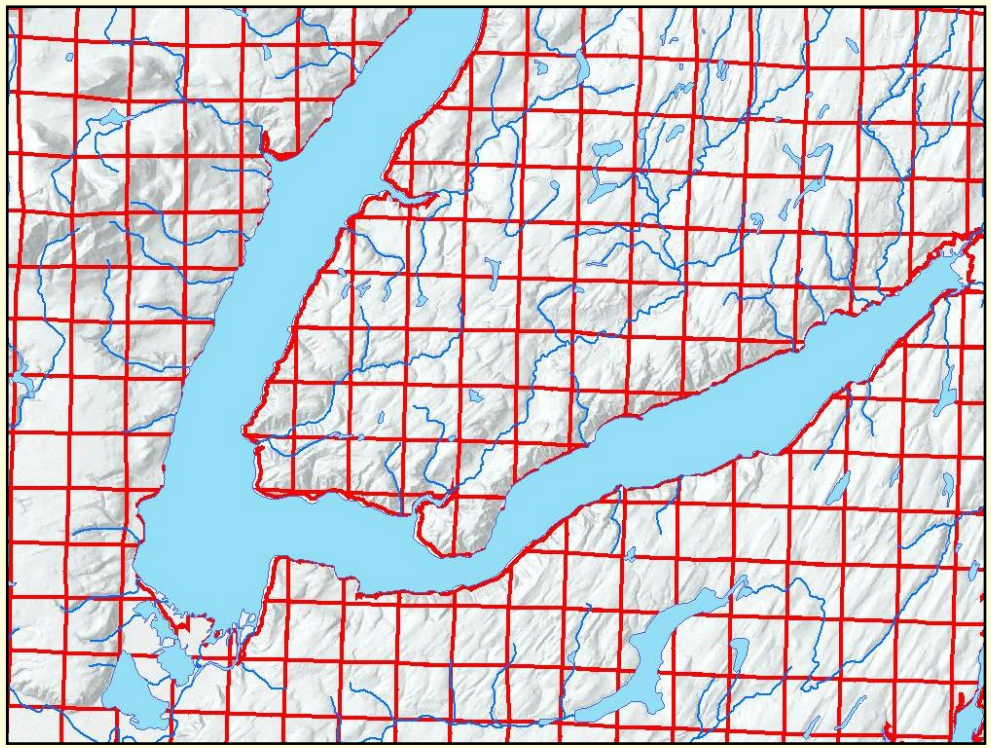
# Polluted Waters –303(d) List (Category 5)

- Data shows that the water quality standards have been violated for one or more pollutants
- There is no clean-up plan (TMDL)
- Clean-up plans, or TMDLs, are required for the waters in this category.

# Waterbody segments

We will be using the same segmentation system for the 2006 Assessment that was used in 2004

- **Township/range/ section for rivers and small lakes**
- **Latitude/longitude grids for marine waters & larger lake & reservoirs**



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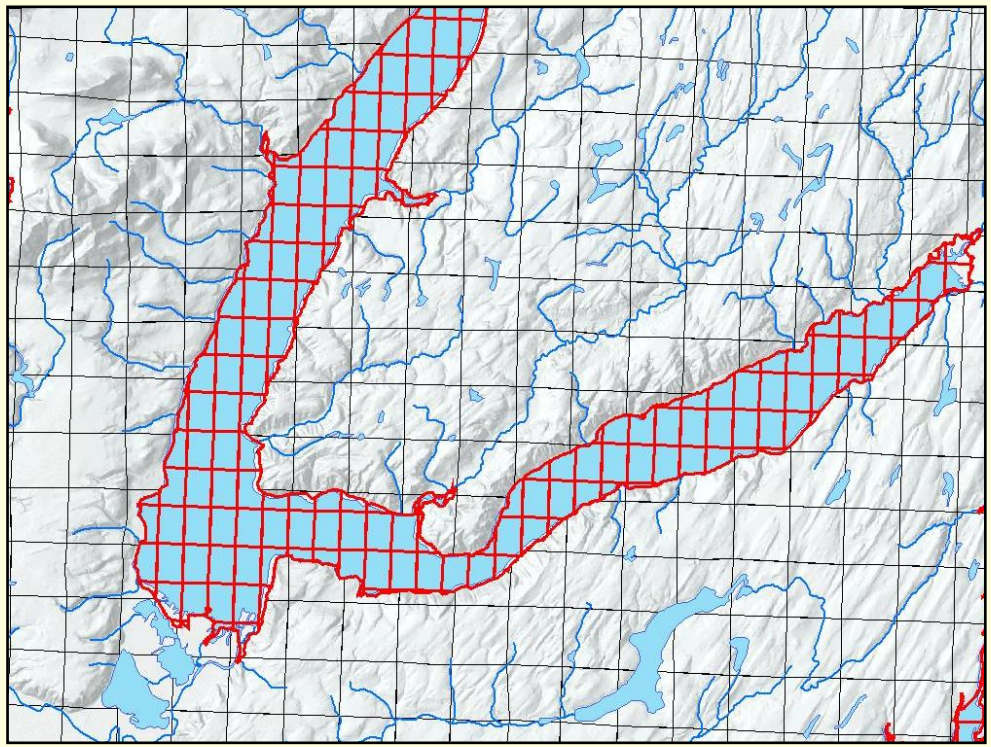

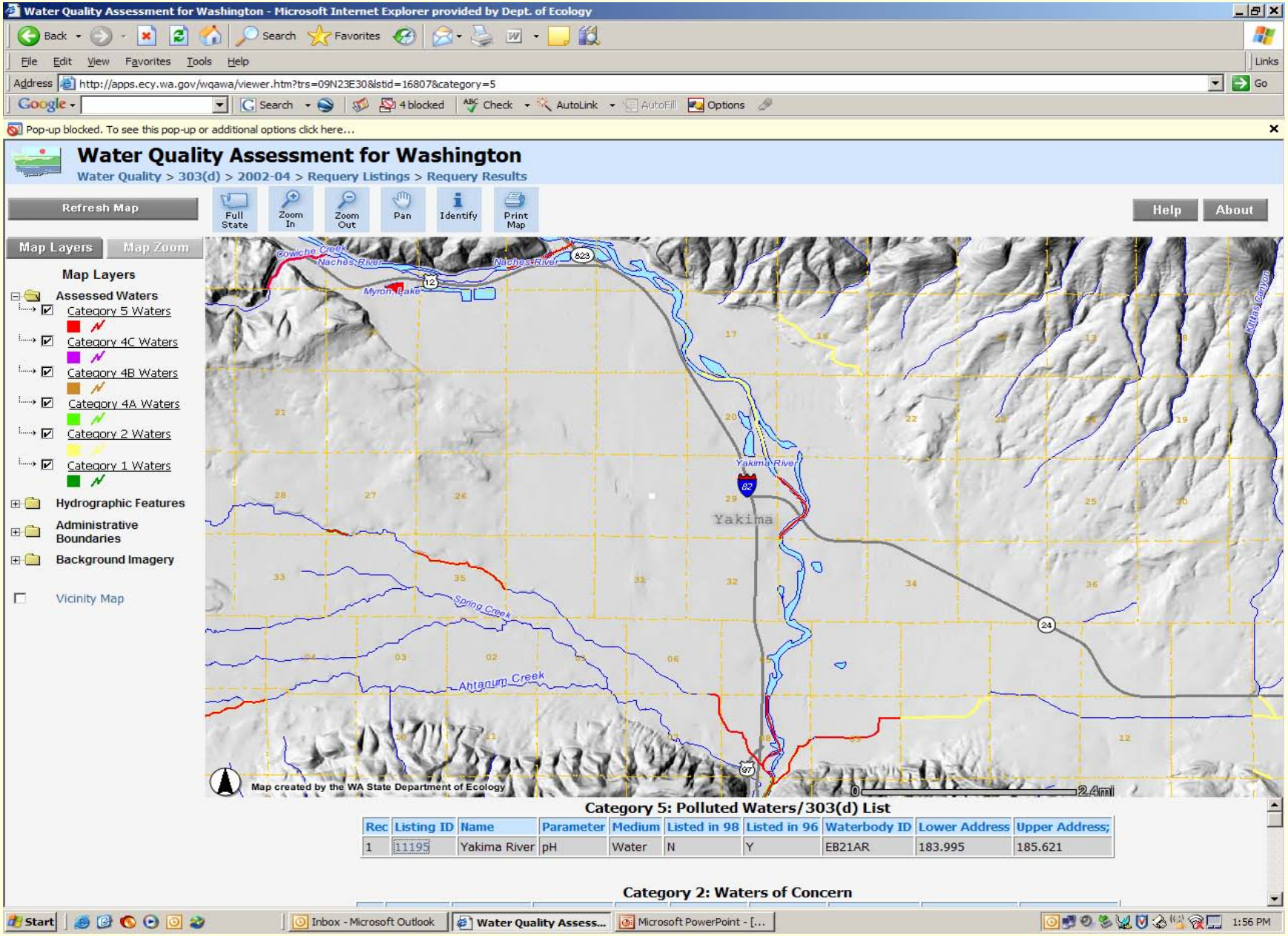
Water Quality Assessment for Washington - Microsoft Internet Explorer provided by Dept. of Ecology
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Water Quality Assessment for Washington
Water Quality > 303(d) > 2002-04 > Requery Listings > Requery Results
Refresh Map
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Help
About
Map Layers
Map Zoom
Map Layers
Assessed Waters
Category 5 Waters
Category 4C Waters
Category 4B Waters
Category 4A Waters
Category 2 Waters
Category 1 Waters
Hydrographic Features
Administrative Boundaries
Background Imagery
Vicinity Map
Cowiche Creek
Naches River
Myron Lake
Yakima River
Yakima
Spring Creek
Ahtanum Creek
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Category 5: Polluted Waters/303(d) List
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Category 2: Waters of Concern
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# Water Quality Assessment for Washington

2002/2004 Candidate List

| | | | |
|---|---|---|---|
| Water Body Name: | YAKIMA RIVER | Listing ID #: | 11195 |
| Parameter: | pH | Township: | 13N |
| Medium: | Water | Range: | 19E |
| Category: | 5 | Section: | 28 |
| Listed 98?: | N | Latitude: | |
| Listed96?: | Y | Longitude: | |

## Basis

Hallock (2004), Dept. of Ecology ambient station 37A205 shows that 7 of 30 samples exceed the criterion.

Hallock (2001) Dept. of Ecology Ambient Monitoring Station 37A205 (YAKIMA RIVER AT KNOB HILL) shows 3 excursions beyond the criterion out of 38 samples collected between 1993 - 2001.

## Remarks

Changed from Category 2 to Category 5 on 01/13/05 due to consolidation with Listing ID 42729. -kk

Water Quality Assessment for Washington - Microsoft Internet Explorer provided by Dept. of Ecology

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://apps.ecy.wa.gov/wqawa/viewer.htm Go Links

Washington State Department of Ecology : Water Quality : 303(d) : 2002-04

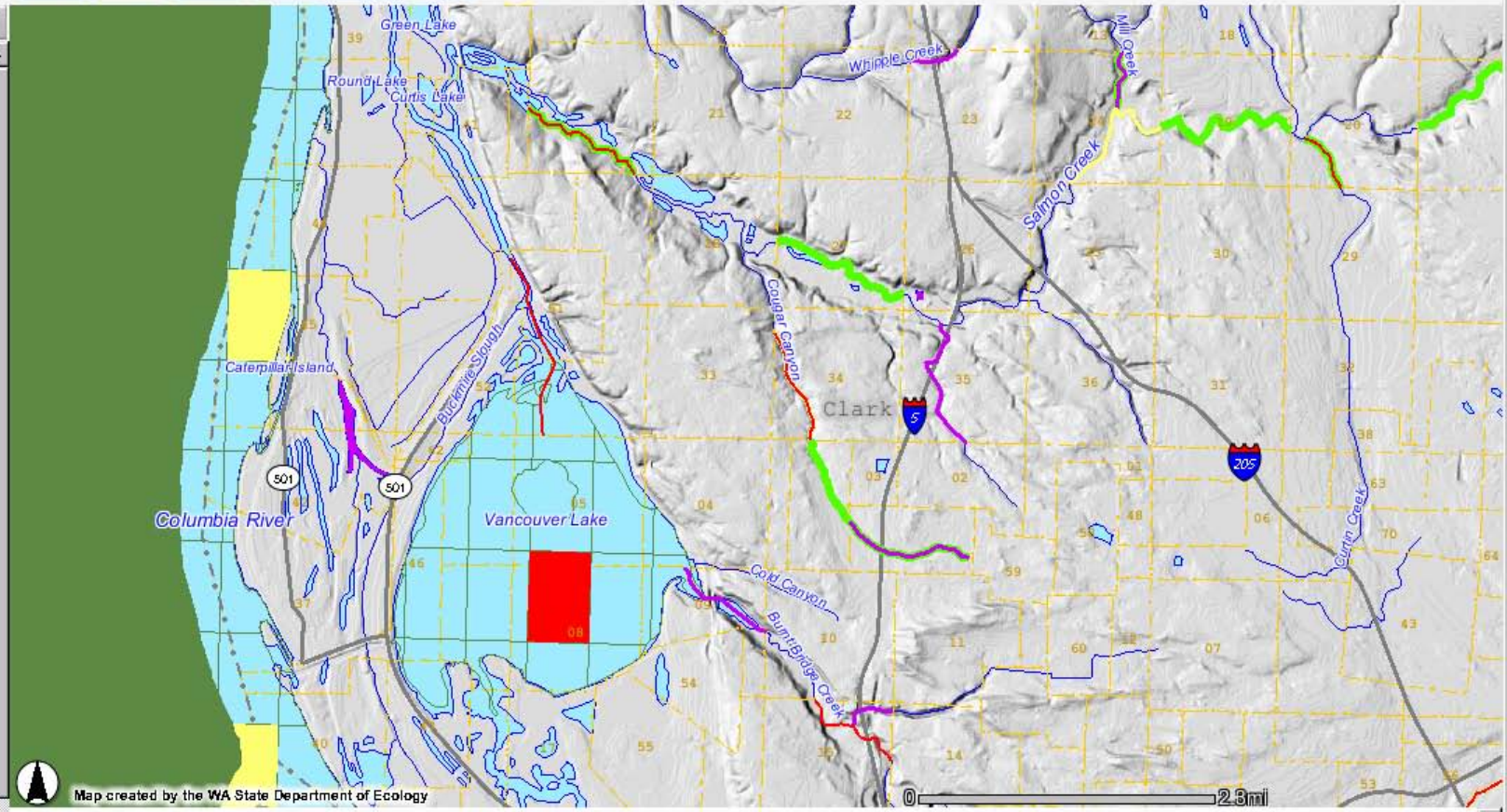
# Water Quality Assessment for Washington

Refresh Map | Full State | Zoom In | Zoom Out | Pan | Identify | Print Map | Help | About

Map Layers | Map Zoom

## Map Layers

- Assessed Waters
  - Category 5 Waters
  - Category 4C Waters
  - Category 4B Waters
  - Category 4A Waters
  - Category 2 Waters
  - Category 1 Waters
- Hydrographic Features
  - Streams (100K)
  - Water Bodies (100K)
  - Water Grid
  - WRIA
- Administrative Boundaries
  - County
  - City
  - Legislative Districts
  - Highways
  - Township/Range/Sect

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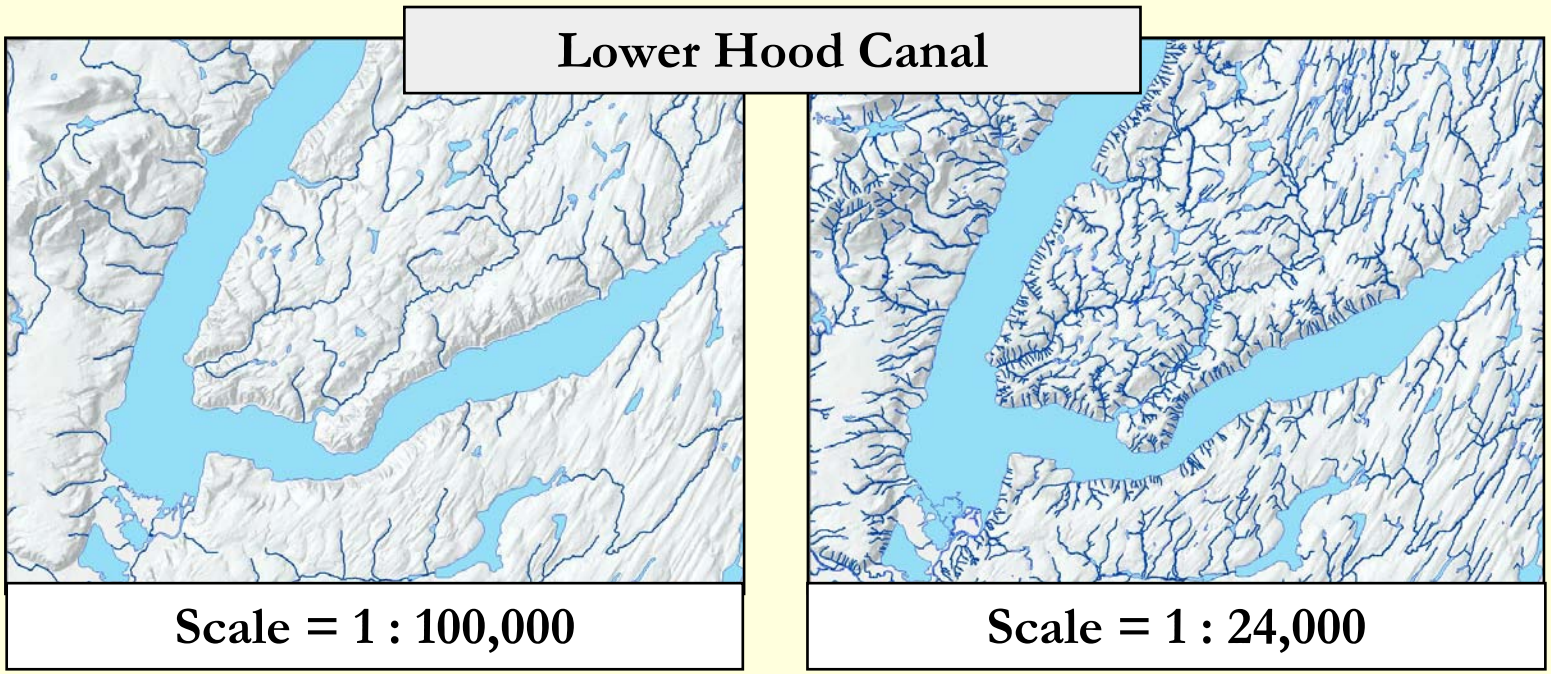
Internet

# Waterbody segments

- We report results on smaller scale maps (1:24K rather than 1:100K) than what EPA now has available




- For the 2008 303(d) reporting process, we hope to move to the same system that EPA uses, once their version is available at the smaller scale.

# How does Ecology put the Assessment together?

1. *We develop **written policies** to help determine when a water is polluted or showing signs of pollution.*
2. *We compile all available **water quality data** we can, from many different groups*
3. *We assess the data by comparing it to existing **water quality criteria** to see if we have problems.*
4. *The results get **reported to EPA**, including a category of waters that is the 303(d) List.*

# Where are We Now in the Process?

- **EPA approved Washington's 2004 WQ Assessment in November 2005.**
- **We are now at step 1 to develop the 2006 WQ Assessment for Washington.**
  - The FIRST step is to revise the written guidelines, or Policy 1-11, used to help determine when a water is polluted or showing signs of pollution.

# Revisions to Water Quality Policy 1-11

- Overall Changes
- Use of EIM for Data Submittal
- Changes to Category Descriptions
- Specific Changes to Pollutant Parameter Requirements

# Overall Changes-
# *Document Improvements*

- Change in title to reflect broader CWA Requirements
- Reorganized the document to be easier to follow & find relevant information
- Rewritten to be “timeless”, avoid revisions in the future (such as flexible data call provisions)
- Pollutant parameters each have individual information sheets
- Segmentation sections notes eventual change to large segments NHD

# Overall Changes-
# *Data Submittals*

- A different level of data will be required to get on Category 1 (clean water)
- More information on data submittals-age of data, representative of water, lab ID, etc.
- Data will need to be submitted in EIM unless exception is made with Ecology
- Documentation will need to be submitted to assure QA was followed

# Changes to Category Descriptions

**<u>Category 1</u> (Meets Tested Standards)**

- Minimum number of data points required to ensure water is in fact clean
- Clarifying that Category 1 listings within a TMDL area may still need to implement the TMDL within the segment to achieve downstream uses

**<u>Category 2</u> (Waters of Concern)**

- Remove listings from Category 2 if they resulted from QA concerns (these now go to Category 3)

# Changes to Category Descriptions

**<u>Category 3</u> (Insufficient Data or No Data)**

- This category will be populated with those listings that have insufficient data (such as lack of documentation) rather than just no data
- Lack of QA evidence moved to Cat 3
- Not enough data to determine that the water is clean (Category 1)

# Changes to Category Descriptions

**<u>Category 4b</u> (Has a Cleanup Program)**

- Specifically state that a NPDES permit can qualify in some cases
- Clarification made that a pollution control program or project should be in place (not just a “plan”) in order to substitute for TMDLs

**<u>Category 4c</u> (Impaired by a Non-Pollutant)**

- No major changes for 4c

**<u>Category 5</u> (Impaired Waters – 303(d) List)**

- Emphasize the purpose of the 303(d) list: to prioritize for TMDLs, therefore no further prioritization after initiation of a TMDL

# Specific Changes to Pollutant Parameter Requirements

- Bacteria
- Bioassessments
- Contaminated Sediment
- Dissolved Oxygen
- pH
- Phosphorus
- Temperature
- Total Dissolved Gas
- Toxics
- Turbidity

# Bacteria

- More detailed description of how assessment is done using the two different criteria (geometric mean vs. percent criterion)
- Swimming beach data is used differently depending on project emphasis
- Relying on DOH assessments of fecal coliform in shellfish beds to determine shellfish advisories.

# Bioassessments

RIVPACS or other biological index models reviewed by Ecology can be used to determine Category 5 listings

Category 5 listings will only occur for bioassessment data showing impairment when another pollutant parameter is also identified for that segment (this will trigger the TMDL).

A threshold was established for Category 1.

# Contaminated Sediment

- We will rely on Ecology's Toxic Cleanup Program's to determine contaminated sediment cleanup sites in accordance with the Sediment Management Standards.
- Sites identified in the Sediment Cleanup Status Report will be used as the basis for categorizing sediment data.

# Dissolved Oxygen

- Category 5 listings for single grab samples can occur with one year of data if a minimum of 3 exceedances are found.
- A higher bar is required to get listed in Category 1. Continuous monitoring only, not single samples

# pH & Turbidity

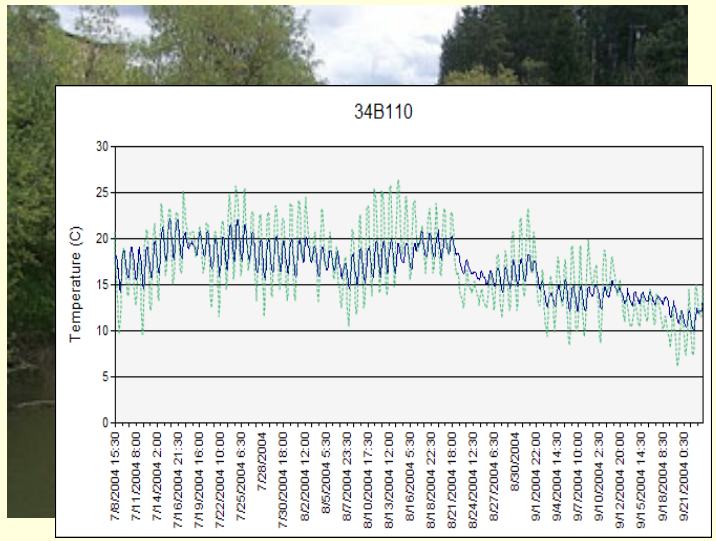
- Category 1 requires 20 upstream & downstream measurements during the critical period, (Storm events).
- No longer using the binomial distribution. If 10% of samples are above criterion… Category 5.

# Phosphorus in Lakes

- A critical period is identified for assessing the data.
- Category 5 listings will occur if a lake specific study sets a criteria or the eco-region action level is exceeded
- Narrative criteria can also be used to list on Category 5 (see section on requirements for narrative listings)

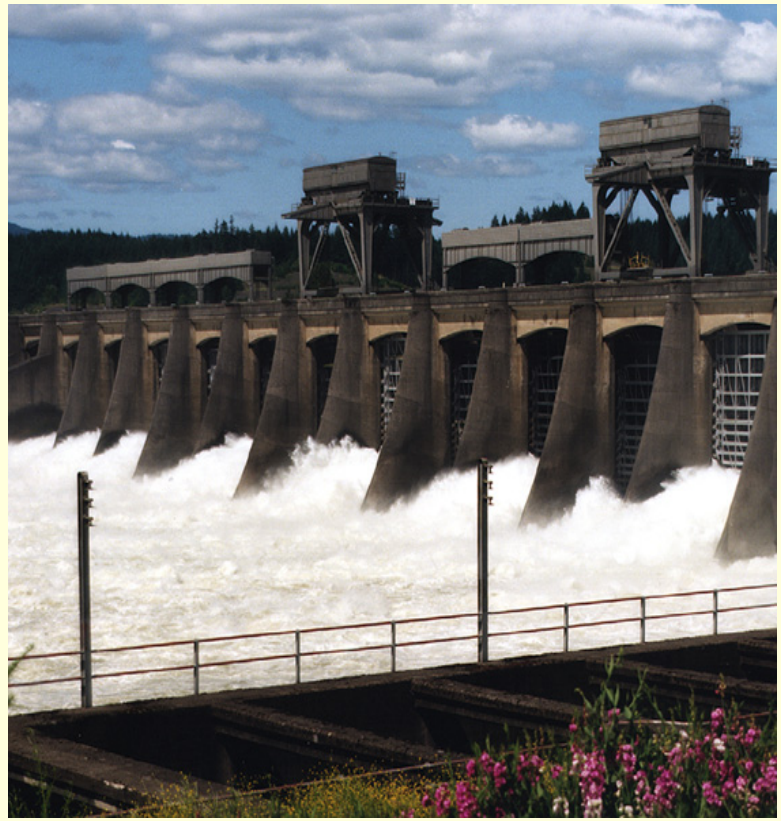
# Temperature

- Category 5 listings for single grab samples can occur with one year of data if a minimum of 3 exceedances are found.
- Temperatures at <7Q10 low flow will not be used to place in Category 5 if flow rate and 7Q10 is known
- Continuous monitoring data showing exceedances will only require one year of data
- Two years of continuous monitoring during the critical season is required to move to Category 1



# Total Dissolved Gas

- A critical period for data assessment is defined
- TDG values at >7Q10 high flow will not be used to place in Category 5
- Continuous monitoring is required to move to Category 1



# Toxics

- Minimum requirements for Category 1
- Parameter-specific assessment details
  - Metals
  - Ammonia
  - PCB's
  - DDT
  - Chlordane
  - Dioxins & Furans

# 2006 Water Quality Assessment Schedule

**Summer 2006:** Ecology publishes the final policy

**Fall 2006:** Ecology conducts a 60-day call for data; the public submits data

**Fall/Winter 2006:** Ecology assesses data & conducts a public review of results

**Early 2007:** Ecology submits Final Assessment and Candidate 303(d) List to EPA for Approval

# Water Quality Assessment for Washington

***For further information and to submit comments contact:***

**Ken Koch: 360/ 407-6782**

- **by email at 303d@ecy.wa.gov**
- **Comments will be accepted until July 10**